

Stensatter Druyvestein & Associates CONSULTING ENGINEERS



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Civil Engineering • Municipal • Transportation • Surveying • Structures • Environmental

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March 28, 1978

STATE DOCUMENTS COLLECTION

Gary A. Stensatter
Res. 406/549-0631

Terry L. Druyvestein
Res. 406/549-7970

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REVIEWERS

MAY 16 1978

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The enclosed draft Environmental Impact Statement has been prepared for purposes of obtaining a State Highway Department approach permit. Actual development plans for the property involved are in the preliminary stages only, and are subject to change. We have provided information on numbers of units, as this will affect the approach permit, however, we have submitted no actual development plans.

Comments and questions will be accepted for 30 days after the date of this publication. If no communication occurs during the time period it will be assumed the person or agency does not have any comments. All comments should be sent to: Terry Druyvestein, Stensatter Druyvestein & Associates, 818 Burlington Avenue, Missoula, Montana 59801.

Sincerely,

Terry Druyvestein, P.E.

LIST OF THOSE RECEIVING IMPACT STATEMENTS

Missoula City/County Planning Board, 301 West Alder, Missoula, MT 59801
Missoula Board of County Commissioners, County Courthouse, Missoula, MT
Missoula County Surveyors Office, County Courthouse, Missoula, MT 59801
Missoula City Engineers Office, 201 West Spruce, Missoula, MT 59801
City of Missoula, Mayors Office, 201 West Spruce, Missoula, MT 59801
Honorable Thomas Judge, Governor, State of Montana, Helena, MT 59601
Montana State Library, Helena, MT 59601
Department of Community Affairs, Aeronautics Division, Box 1698, Helena, MT
Department of Fish & Game, Attn: Jim Posewitz, Administrator, Ecological
Services Division, Helena, MT 59601
Department of State Lands, Office of the Commissioner, Helena, MT 59601
Department of Natural Resources and Conservation, Office of the Director,
Helena, MT 59601
U.S. Department of Transportation, Federal Aviation Administration, FAA
Building, Room 2, Helena, MT 59601
U.S. Department of the Interior, U.S. Geological Survey; MS-104, Chief,
Environmental Impact Assessment Program, Reston, VA 22092
Environmental Protection Agency, Deputy Regional Administrator, Region VIII,
Suite 900, 1860 Lincoln Street, Denver, CO 80203

LIST OF THOSE RECEIVING IMPACT STATEMENTS (CONT'D)

Federal Housing Administration, Housing and Urban Development, Office
of the Director, 616 Helena Avenue, Helena, MT 59601

Bureau of Land Management, Montana State Office, Box 30157, Billings,
MT 59107

U.S. Department of Transportation, Federal Highway Administration, 501
North Fee Street, Helena, MT 59601

Montana Automobile Association, Box 4129, Helena, MT 59601

Montana Stockgrowers Association, Box 1679, First National Bank Bldg.,
Helena, MT. 59601

The Montana Power Co., 40 East Broadway, Butte, MT 59701

Mountain Bell Telephone Co., Inc., Attn: F.R. Ketron, Plant Staff
Supervisor, Box 1716, Helena, MT 59601



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DRAFT ENVIRONMENTAL IMPACT STATEMENT

HUGHES GARDEN DEVELOPMENT

Missoula County, Montana

Pursuant to the Montana Environmental Policy Act, Section 69-6504 (b) (3), Administrative Rules of Montana 16-2.2 (2) - P2000 et. seq. and 18-2.2 (2) - P210 et. seq., the following draft environmental impact statement (EIS) was prepared concerning a traffic approach permit pursuant to Department of Highways - Powers and Duties, Title 32, Chapter 24, RCM, 1947, and administrative approval of the Hughes Gardens Development, east of Missoula, Montana, pursuant to the Public Water Supply Act, Title 69, Chapter 49, RCM, 1947.

I. DESCRIPTION

Jack L. Green II proposes to build the Hughes Garden Development east of the city limits, on Old U.S. Highway 10 (S $\frac{1}{2}$, Section 24, Township 13 North, Range 19 West - See attached Vicinity Map). The 34 acres is bounded by the Clark Fork River on the south and east, by the Northern Pacific Railway on the north and by Old U.S. Highway 10 on the west.

II. CURRENT ENVIRONMENTAL CONDITIONS

The land is in small grain agricultural production at the present time.

The proposed change in land use is indicative of the trend for the area and is in conformance with zoning.

III. PHYSICAL ENVIRONMENT

Terrestrial and Aquatic Life and Habitats

There are no streams on the property itself, however the Clark Fork River bounds the property to the east and south. The Clark Fork is a valuable fishery in the Missoula area.

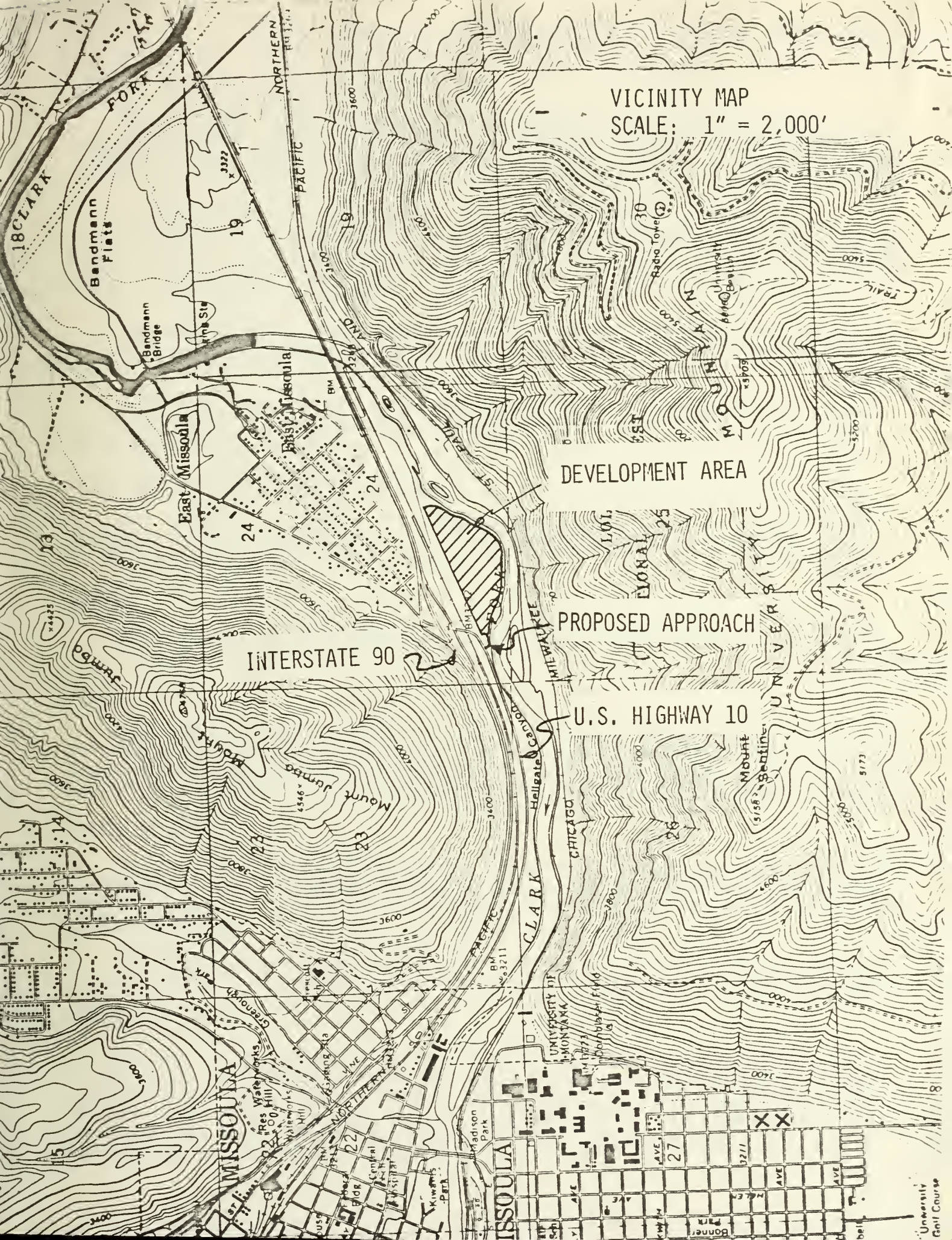
Since the site is crowded between Missoula and East Missoula and by two railroads, the Interstate and Old U.S. Highway 10, the animal life consists mainly of nongame species, such as mice, ground squirrels, song birds and occasionally, birds of prey.

The construction of the development will not physically alter the Clark Fork River, however, there will be some construction within the 100 year flood plain to build the approach to Old U.S. Highway 10. All other floodplain area will remain as open space. (See Approach Plan.)

Water Supply

Water needs for the East Missoula area are supplied from groundwater. The general depth to a high yield groundwater aquifer is from 50 to 60 feet. The aquifers in the area are high yield and of good quality and are recharged from the Clark Fork River. Adequate future needs may be supplied from this groundwater source. The anticipated average daily need for the development is 30,000 gallons.

VICINITY MAP
SCALE: 1" = 2,000'

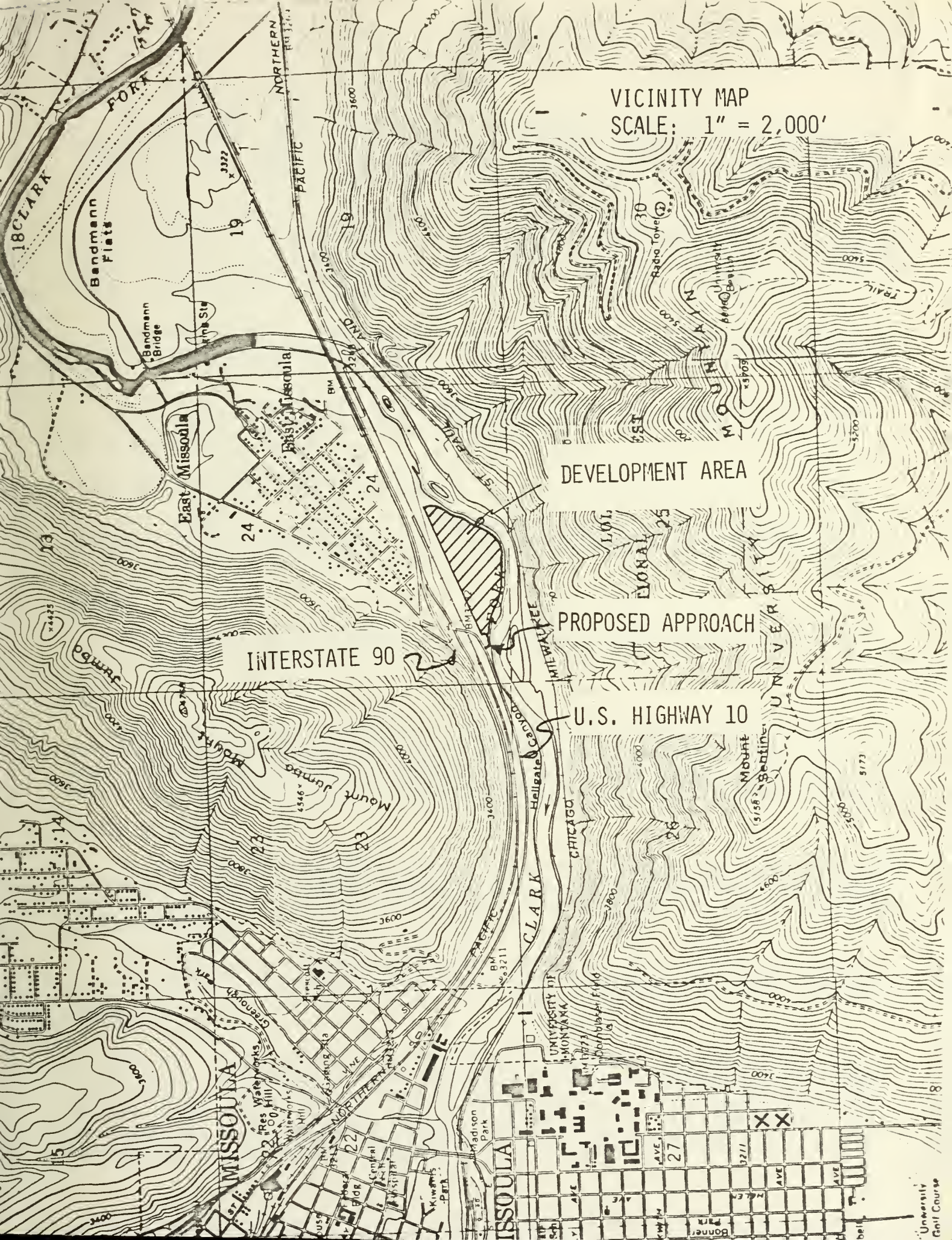


DEVELOPMENT AREA

INTERSTATE 90

PROPOSED APPROACH

U.S. HIGHWAY 10



Impact of Stormwater on the Clark Fork River

All stormwater runoff from roads will be disposed of into stormwater sumps. The sumps will provide a soil treatment method of stormwater disposal and as such will provide effective removal of filterable materials. The soils in the area will provide a reasonable, workable life before replacement of the sump will be necessary.

Dissolved salts such as sodium will pass through the soil and will not be appreciably reduced in concentration in any percolate which might eventually reach the Clark Fork River. The primary impact to the Clark Fork River as a result of stormwater runoff from roads will be through dissolved solids. The impact of dissolved solids to the Clark Fork River will be negligible.

There will be some runoff to the Clark Fork from roof drains and lawned areas of housing units adjacent to the river. With proper landscaping of lawned areas the impact from this source will be minimal.

The overall impact of stormwater runoff to the Clark Fork River will be minimal. In all probability the impact will be about the same, if not reduced, when compared to the present agricultural use.

Impact of the Development on Groundwater

Soil disposal of stormwater is not expected to adversely affect groundwater quality or downstream water users. The impact of construction on groundwater quality is also expected to be slight or nonexistent.

Geology

The geology of the development area is typified by sedimentary rock canyon walls adjacent to riverbed alluvium.

Soils

According to the SCS, the dominant soil type at the ground surface is loam and sandy loam topsoil ranging in depth from 10 inches to possibly 10 feet. The topsoil transitions into sands and gravels. The sandy soils are well drained and are generally considered to be good construction materials when good drainage is provided.

Vegetation Cover

The development will replace the open agricultural land and subsequent grain crops. The vegetation type will change from grains to lawn grasses and gardens. The area of vegetated land will be reduced, however, the density of grasses for erosion protection will be increased.

There currently are no native vegetation species at the site with the exception of the river banks below the 100 year flood plain. These areas will remain unaffected.

Aesthetics

The land use will change from agriculture to residential and consequently the aesthetics will also change. The single family residential development may be viewed from the Old U.S. Highway 10 and from the Clark Fork River. Since beauty lies within the eyes of the viewer some will believe the aesthetic quality is reduced with the development and others, particularly those for whom housing has been provided, will feel that the quality has been improved.

Air Quality

Due to Missoula's geographic location, it is subject to weather inversions, and subsequently to poor air quality conditions especially through some of the winter months.

After the proposed development is built, it should not pose a problem to air quality; however, during construction, areas should be watered to reduce blowing dirt--particularly since the top soil must be removed before the roadways can be surfaced.

Unique, Endangered, Fragile or Limited Environmental Resources

The Clark Fork River running past the property is a fragile resource which, when left in a natural state, will be an attractive and valuable resource to the community. No alteration of streamside vegetation will be conducted within the 100 year floodplain.

Demands on Environmental Resources of Land, Water, Air and Energy

The elimination of 35 acres from the agricultural land base may seem insignificant, but the cumulative effect of such a change could result in a substantial loss of productive farm land. In the case of this development, it is recognized that commercial and residential growth is expanding between Missoula and East Missoula. In an effort to keep growth central to the Missoula area it is felt that the best use for the land would be residential development. Thus, even though the use of the land will be permanently changed, the choice is in conjunction with local planning and zoning efforts

Historical and Archaeological Sites

There are no known historical or archaeological sites on the property. At the approach to the property there is a historical marker for the Hell Gate Canyon which should be preserved.

IV. HUMAN ENVIRONMENT

Social and Cultural

In terms of social/cultural orientation, people living near the proposed development are closely tied to Missoula for jobs, schooling, shopping and entertainment. This dependence on the city indicates that the transition from a rural to urban way of life has occurred.

Local and State Tax Base and Tax Revenue

The site of the proposed development is being taxed as agricultural land.

The current tax for 35 acres of agricultural land is \$184. It is estimated that taxes on the land after development will be \$55,000. This tax does not include that on actual structures.

Until the proposed development is built, it is impossible to accurately project what the total taxes will be since much of the information needed to calculate taxes (such as market value, mill levies, etc.) fluctuates.

Agricultural or Industrial Production

There are no accurate records of crop production for the area. According to SCS officials the land may be classified as "good" to "excellent" for crop production.

Human Health

If the development is serviced by city sewer, central water, stormwater runoff is properly controlled, and efforts are made to control dust generated from construction, there should be no threat to human health.

Quantity and Distribution of Community and Personal Income

The major source of personal income in Missoula County comes from nonfarm industries. The nonfarm industries in the Missoula area may be divided into government and private industry. Montana University, the Federal, state and local governments are the largest employer in the area. The wood products industry is the largest industry of the area.

Access to and Quality of Recreational and Wilderness Activities

The proposed development should not interfere with angling on the Clark Fork River. The housing development may result in greater fishing pressure on this section of the river.

Quantity and Distribution of Employment

The economic base supporting past growth in Missoula has largely rested on two supports--the wood products industry and University of Montana expansion. From 1950 to 1960, manufacturing employment grew by approximately 690 jobs, for an increase of 39 percent. Another 895 jobs were added between 1960 and 1970, a 36 percent increase. This growth from 1,770 jobs in 1950, 14.0 percent of all jobs, to 3,351 in 1970, does not include jobs such as workers in forest extraction and truck transportation, which are supplemental to wood products manufacturing. The number of persons employed in manufacturing in 1960 represented 15.7 percent of total employment in Missoula. The number of persons employed in manufacturing has continued to grow since 1960; although because of recent economic instability, the number of jobs in wood products has fluctuated greatly.

Enrollment at the University of Montana is a better indicator of University impact on the Missoula area than total University employment for two reasons: employment at the University is a function of enrollment; and the number of students enrolled at the University is important to the community in terms of goods and services demanded. University of Montana enrollment has increased dramatically in the past twenty years, doubling during the 1960's. Enrollment in the fall of 1960 was 7,733, up from 3,027 in 1950. Enrollment continues to grow in the seventies reaching 8,876 students attending the University during fall quarter 1974.

Other major areas creating primary employment for the Missoula area are the Federal Government, wholesale and retail trade and tourism. Federal Government employment has remained quite stable during the last ten years, fluctuating around 1,300 total employees. During a ten year span from 1962 to 1971, total earnings of federal employees in Missoula more than doubled, reaching \$15,151,000 in 1971.

Demands for Government Services

The development should not place a serious demand on local government services, such as schools, law enforcement or fire protection.

In terms of fire control, the development will require protection, but since the buildings will be constructed according to local building codes, the possibility of a major fire should be minimal.

Undoubtedly some government services will be needed by the residents of the development, however, over a period of years the amount of money paid in taxes will likely offset the cost of those public services.

Industrial and Commercial Activity

The development's impact on local commercial business is no different from that normally associated with single family residential housing.

Demands for Energy

The development will have typical residential energy demands. It is anticipated that due to the size and construction of the units that average energy consumption for heating and home services will cost consumers approximately \$48.00 per month at 1978 gas and electrical prices.

Because of the area's location with respect to places of employment and trade it is probable that the cost for transportation to work and shopping areas will be less than most families in the Missoula area.

Transportation Networks and Traffic Flows

The urban area of the City of Missoula has been the subject of a comprehensive transportation plan completed initially in 1967. In the 1967 plan, Old U.S. Highway 10 is called East Broadway Street.

The general projection of major streets and highways is depicted on the following plan (Figure 13 from the Missoula Comprehensive Transportation Plan) Figure 14 indicates the projected 1985 traffic volume of the major streets and highways. East Broadway Street has a projected daily traffic volume of 5500.

The 1967 Comprehensive Transportation Plan is in the process of being updated. From 1974 traffic counts data, East Broadway was found to have a daily traffic volume of 3620. (Tech Plan Report No. 1, Missoula Urban Transportation Study Update-1974). The 1980 computer projection from this update is 4515.

Estimation of Development Related Traffic

A single approach is proposed for the development and would connect to Old U.S. Highway 10 as indicated on the attached plan. Based on the residential nature of the development and on the eventual construction of 100 single family units it is projected that a daily traffic volume of 430 will be generated from the site.

The entire volume of traffic will be diverted to Old U.S. Highway 10 or East Broadway Street. Peak traffic volume will be reached between 7:00 and 9:00 A.M. and between 4:30 and 6:00 P.M.

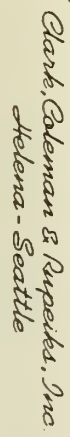
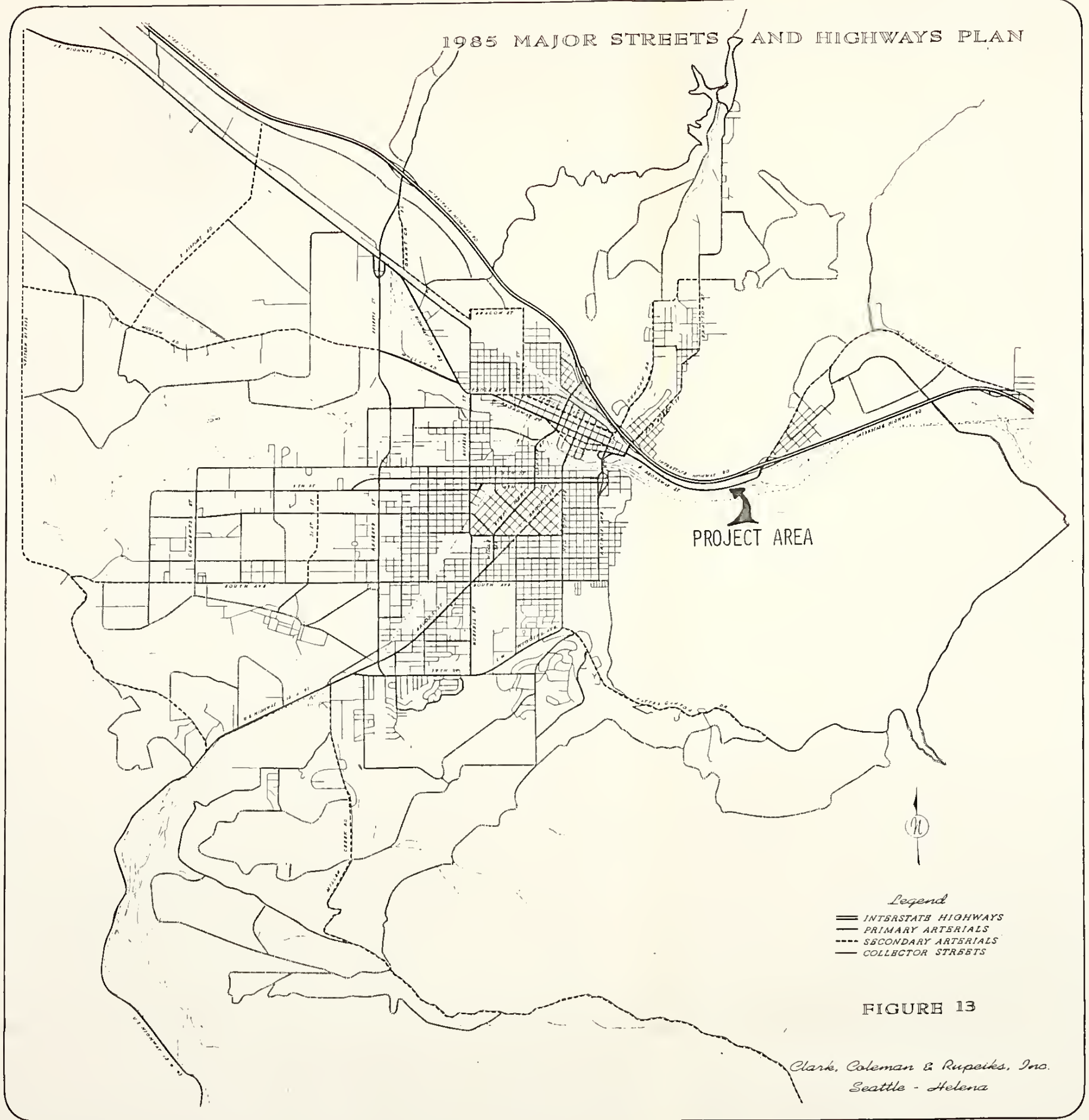


FIGURE 14

1985 MAJOR STREETS AND HIGHWAYS PLAN



V. PRIMARY, SECONDARY AND CUMULATIVE IMPACTS

Primary

The proposed development would permanently change the land's aesthetic qualities and use. The property would be forever lost to agricultural production, and would change from a rural to urban setting.

It is true the loss of about 35 acres of land should not pose a serious impact to the agricultural community, however, the change is another small step towards urbanization in the area. This step however, is in the central Missoula area and will lessen the demand for urbanization in less desirable locations further from the city center.

Secondary

The creation of the development will lead to a variety of secondary impacts, such as, the proper disposal of runoff and sewage, creation of a certified water supply, and more complex traffic patterns.

Cumulative

The cumulative effect of this growth will be a permanent change in the land use. However, this change has not come unexpectedly and will be in a logical expansion area between Missoula and East Missoula.

VI. POTENTIAL GROWTH INDUCING OR INHIBITING IMPACTS

The project is a result of community growth and will not in itself create or inhibit community growth.

VII. IRRIVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF ENVIRONMENTAL RESOURCES

The land will be permanently altered. This has already been discussed. Also, the nature of the development will add to the growing stress put on the supply of fossil fuels.

VIII. ECONOMIC AND ENVIRONMENTAL BENEFITS AND COSTS

Economic Benefits and Costs

Benefits:

1. An increase in tax revenues for Missoula County.
2. For renters, a greater selection of housing.
3. Increased job opportunities during the construction.

Costs:

1. The permanent loss of crop land revenues.
2. Customer transportation costs to and from the employment and shopping area.
3. Government services for schools, fire and police protection.

Environmental Benefits and Costs

Benefits:

1. Decrease in erosion potential in long term.

Costs:

1. A change in the aesthetics.
2. Vegetation removal during construction and erosion hazard.
3. An increase in stormwater runoff.

IX. SHORT-TERM vs. LONG-TERM COSTS AND BENEFITS

Short-Term Costs and Benefits

Costs:

Construction will create some short-term costs in terms of degradation of air quality and possible traffic hazards. Dust abatement measures should be taken to reduce the occurrence of blowing dust. As for traffic, until the approaches to the development are completed, caution must be exercised, particularly when entering or leaving the highway.

Benefits:

The work generated by the construction will benefit local building material suppliers, contractors and laborers.

Long-Term Costs and Benefits

Costs:

The land use will be changed from agricultural to residential.

ALTERNATIVES

1. Disapproval: This will result in pushing residential housing areas of Missoula further from the places of employment and shopping. It may also leave the land open for commercial development which would not comply with the community zoning of the area.

2. Approval: This will result in the submittal of plans and specifications for the approach permit to the area. Such plans will require Department of Highway approval prior to construction. Approval will also be required for water and sewer systems. The project will proceed upon approval of these plans and upon obtaining a building permit from the City-County building inspector.

RECOMMENDATIONS

It is recommended that the approach permit to the area be conditionally approved in order that design may proceed for final plans and specifications and approval of same.

